

Supplementary Table 1. Predictor variables and their sources

Variable	Description	Unit of measurement	Sources of data
Number of households	Number of households	Total number of HHs in villages that are inside a forest polygon	Census (2001), India, http://censusindia.gov.in/ ⁸
Total population	Total population	Total population of the villages that fall inside a forest polygon	Census (2001), India, http://censusindia.gov.in/ ⁸
Number of farmers	Number of cultivators (farmers)	Total number of farmers in villages that fall inside a forest polygon	Census (2001), India, http://censusindia.gov.in/ ⁸
Number of marginal people (scheduled caste population)	Scheduled caste population	Total number of total SC population in villages that fall inside a forest polygon	Census (2001), India, http://censusindia.gov.in/ ⁸
Number of literates	Total number of literates	Total number of literates in villages that fall inside a forest polygon	Census (2001), India, http://censusindia.gov.in/ ⁸

Variable	Description	Unit of measurement	Sources of data
Number of unemployed people	Total marginal workers	Total number of marginal workers in villages that fall inside a forest polygon	Census (2001), India, http://censusindia.gov.in/ ⁸
Economic activity	2003–2008, 0.56 km spatial resolution	1 to 63 (values) (Average for villages that fall inside a forest polygon)	Version 4 DMSP-OLS Nighttime Lights Time Series ⁹
Road density	Road density,	Km/km ² (Average for villages that fall inside a forest polygon)	CIESIN (Data Center in NASA's Earth Observing System Data and Information System (EOSDIS)) (https://sedac.ciesin.columbia.edu/data/sets/browse) ¹⁰
Number of small landholdings	Number of small landholdings less than 0.5 ha	Number of smallholdings less than 0.5 ha in Census Tehsils where that forest polygon falls.	Agricultural census (2005), India ¹¹

Variable	Description	Unit of measurement	Sources of data
Grazing density	Number of grazing animals (buffaloes, goats, sheep, cattle)/area of the tehsil in ha	Number/ha (Average for villages that fall inside a forest polygon)	Livestock census (2007), India 12
Area of forest polygon	Area of the forest polygon	ha	Forest records, HP Forest Department, India
Area under crop acreage	2000, 30 m resolution	ha	13
Area under grass coverage	2000, 30 m resolution	ha	13
Area under bare land acreage	2000, 30 m resolution	ha	13
Soil depth	2000, reference soil depth, average	cm	14

Variable	Description	Unit of measurement	Sources of data
Available soil water capacity	2000, available soil water storage capacity, average	Coded values 1 to 7; 1 = 15 cm water per m of the soil unit, 2 = 12.5 cm, 3 = 10 cm, 4 = 7.5 cm, 5 = 5 cm, 6 = 1.5 cm, 7 = 0 cm.	¹⁴
Topsoil Carbon Content	Topsoil and subsoil carbon content (T_C and S_C) are based on the carbon content of the dominant soil type in each regrided cell rather than a weighted average.	kg C m ⁻²	¹⁴
Subsoil Carbon Content		kg C m ⁻²	¹⁴
Topsoil Organic Carbon		% weight	¹⁴
Subsoil Organic Carbon		% weight	¹⁴
PH (Top Soil)	Topsoil pH (in H ₂ O)	-log(H ⁺)	¹⁴

Variable	Description	Unit of measurement	Sources of data
Top Soil Bulk Density	Reference bulk density values are calculated from equations developed by Saxton et al. (1986) that relate to the texture of the soil only.	kg dm ⁻³	¹⁴
Top Soil Cation Exchange Capacity	Cation exchange capacity of the clay fraction in the topsoil	cmol per kg	¹⁴
Sub Soil Cation Exchange Capacity	Cation exchange capacity of the clay fraction in the subsoil	cmol per kg	¹⁴
Location (altitude)	2000, 90 m resolution	m	SRTM (Shuttle Radar Topography Mission), 90 m resolution, 2000 ¹⁵
Slope	2000, 90 m resolution	degree	SRTM (Shuttle Radar Topography Mission), 90 m resolution, 2000 ¹⁵

Variable	Description	Unit of measurement	Sources of data
Baseline forest cover (FC_2003HA)	2003, 24 m resolution	Forest cover = Open forest + Moderately dense forest + Very dense forest	Forest Survey of India, 2005 ³
Number of forest fires	2003–2008	Number	NASA, active fire data, MODIS C6 ¹⁶
Temperature	2001–2008, 30 km resolution, average	°C	CRU (Climatic Research Unit) TS dataset, version 4.0, gridded dataset of monthly terrestrial surface climate http://www.cru.uea.ac.uk/ ¹⁷
Precipitation	2001–2008, 30 km resolution, average	mm	CRU (Climatic Research Unit) TS dataset, version 4.0, gridded dataset of monthly terrestrial surface climate http://www.cru.uea.ac.uk/ ¹⁷
Land surface temperature	2001–2008, 5.5 km spatial resolution, average	K	MODIS/Aqua Land Surface Temperature/Emissivity Monthly L3 Global CMG V005

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Variable	Description	Unit of measurement	Sources of data
Outcomes (O)			
Tree cover loss/Mortality	24 m resolution	If FC_CHANGE15_03 < 0, MORTALITY = 1, OTHERWISE = 0	Forest Survey of India (2005); Forest Survey of India (2017) 3
	FC_CHANGE15_03 = FC_2015HA – FC_2003HA		